



~3529537.txt
SEQUENCE LISTING

> Stratagene

<120> Renilla Reniformis Green Fluorescent Protein and Mutants Thereof

<130> 25436/1162

<140> US 09/795,040

<141> 2001-02-26

<150> US 60/185,589

<151> 2000-02-28

<150> 60/210,561

<151> 2000-06-09

<160> 8

<170> PatentIn version 3.0

<210> 1

<211> 720

<212> DNA

<213> Renilla reniformis

<220>

<221> exon

<222> (1)..(720)

<223> open reading frame

<400> 1

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tcg Ser	ttt Phe	aaa Lys	gtg Val 20	aat Asn	ctg Leu	gaa Glu	ggt Gly	gta Val 25	gta Val	aac Asn	aat Asn	cat His	gtg Val 30	ttc Phe	aca Thr	96
atg Met	gaa Glu	ggt Gly 35	tgt Cys	gga Gly	aaa Lys	gga Gly	aat Asn 40	att Ile	tta Leu	ttc Phe	gga Gly	aac Asn 45	caa Gln	ctg Leu	gtt Val	144
cag Gln 50	att Ile	cgt Arg	gtc Val	aca Thr	aaa Lys	ggg Gly 55	gtc Val	ccg Pro	ctt Leu	cca Pro	ttt Phe 60	gca Ala	ttt Phe	gat Asp	att Ile	192
ctc Leu 65	tca Ser	cca Pro	gct Ala	ttc Phe	caa Gln 70	tac Tyr	ggc Gly	aac Asn	cgt Arg	aca Thr 75	ttc Phe	acg Thr	aaa Lys	tac Tyr	ccg Pro 80	240
gag Glu	gat Asp	ata Ile	tca Ser	gac Asp 85	ttt Phe	ttt Phe	ata Ile	caa Gln	tca Ser 90	ttt Phe	cca Pro	gcg Ala	gga Gly	ttt Phe 95	gta Val	288
tac Tyr	gaa Glu	aga Arg	acg Thr 100	ttg Leu	cgt Arg	tac Tyr	gaa Glu	gat Asp 105	ggt Gly	gga Gly	ctg Leu	ggt Val	gaa Glu 110	atc Ile	cgt Arg	336
tca Ser	gat Asp	ata Ile 115	aat Asn	tta Leu	atc Ile	gag Glu	gag Glu 120	atg Met	ttt Phe	gtc Val	tac Tyr	aga Arg 125	gtg Val	gaa Glu	tat Tyr	384
aaa Lys	ggt Gly 130	agt Ser	aac Asn	ttc Phe	ccg Pro	aat Asn 135	gat Asp	ggt Gly	cca Pro	gtg Val	atg Met 140	aag Lys	aag Lys	aca Thr	atc Ile	432
aca Thr 145	gga Gly	tta Leu	caa Gln	cct Pro	tcg Ser 150	ttc Phe	gaa Glu	ggt Val	gtg Val 155	tat Tyr	atg Met	aac Asn	gat Asp	ggc Gly	gtc Val 160	480
ttg Leu	ggt Val	ggc Gly	caa Gln 165	gtc Val	att Ile	ctt Leu	ggt Val	tat Tyr	aga Arg 170	tta Leu	aac Asn	tct Ser	ggc Gly 175	aaa Lys	ttt Phe	528
tat Tyr	tcg Ser	tgt Cys	cac His 180	atg Met	aga Arg	aca Thr	ctg Leu	atg Met 185	aaa Lys	tca Ser	aag Lys	ggt Gly	gta Val 190	gtg Val	aag Lys	576
gat Asp	ttt Phe	ccc Pro 195	gaa Glu	tac Tyr	cat His	ttc Phe	att Ile 200	caa Gln	cat His	cgt Arg	tta Leu	gag Glu 205	aag Lys	act Thr	gat Asp	624
gtg Val 210	gaa Glu	gac Asp	gga Gly	ggt Gly	ttt Phe	ggt Val 215	gag Glu	caa Gln	cac His	gag Glu 220	acg Thr	gcc Ala	att Ile	gct Ala	caa Gln	672
ctg Leu 225	aca Thr	tcg Ser	ctg Leu	ggg Gly	aaa Lys 230	cca Pro	ctt Leu	gga Gly	tcc Ser	tta Leu 235	cac His	gaa Glu	tgg Trp	ggt Val	taa	720

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<212> PRT

<213> Renilla reniformis

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Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val
35     40     45
Gln Ile Arg Val Thr Lys Gly Val Pro Leu Pro Phe Ala Phe Asp Ile
50     55     60
Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65     70     75
Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val
85     90     95
Tyr Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg
100    105    110
Ser Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr Arg Val Glu Tyr
115    120    125
Lys Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile
130    135    140
Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val
145    150    155
Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe
165    170    175
Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys
180    185    190
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Asp
195    200    205
Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
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Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
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<223> open reading frame

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Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
			20					25					30			

atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
		35					40					45				

cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
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Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
65					70				75					80		

gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
				85					90					95		

tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
			100					105					110			

agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
		115					120					125				

aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
	130					135					140					

acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
145					150					155					160	

ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
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tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	

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180										185										190										
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Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr															
		195					200					205																		
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672														
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	210					215					220																			
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720														
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			20					25					30		
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val
		35					40					45			
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile
	50					55					60				
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro
65					70				75						80
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val
				85					90					95	
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg
			100					105					110		
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr
		115					120					125			
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile
	130					135					140				
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val
145					150					155					160
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe
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~3529537.txt

Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys
180 185 190
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr
195 200 205
Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
210 215 220
Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
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7

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